

• Dredging • Mining • Industry

Mining Heavy Duty Pumps
and Dredging equipment

DRAGFLOW
DREDGING • MINING • INDUSTRY



About

DRAGFLOW

Dragflow has been involved in the design and manufacture of dredge mining equipment for more than 25 years.

Our equipment is used in process plants, tailings ponds and dredge mining projects around the world. This experience has driven continuous development to reach the best solutions for the mining industry.

In addition to submersible pumps for very heavy slurry and dredges for wet mining and tailing ponds, Dragflow is constantly working to improve the latest state-of-the-art designs for complex pumping stations.

PRODUCT RANGE

- electric and hydraulic heavy duty slurry pumps
- hydraulic cutters for excavating compact solids
- dredging equipment for high concentration and high working depth
- custom pumping stations for special applications

Dragflow builds equipment for mining:

- gold
- copper
- silver
- iron ore
- multi-metals
- zinc
- mineral sands
- iodine



At the heart of mining: advanced and quality design

Strong and Reliable motors

Dragflow motors for mining pumps are all Class H and have a minimum 1,25 service factor. They are designed for handling slurries with up to 1,7 specific gravity. Low operating RPM promotes low wear rates and extended component life.

Best in class seal system

Pumps are equipped with a unique lip seal system with a front deflector to prevent fine materials from penetrating the seal and Teflon layers to resist to high and low pH. Incredible high precision in the machining of parts together with grease injection points ensure long sealing system life. Small pumps, up to 18 kW, are equipped with a combination of lip seal layers that protect a double mechanical seal.

Metallurgy at the top

High quality materials ensure long life of all components. Castings are 100% made in Italy with quality checks for every casting in order to ensure homogeneous hardness from the surface to the core. All wear parts are made in High Chrome alloy to allow extended life between spare part changes.

Sensors for Additional protection.

Temperature sensor, embedded in the motor, and **Moisture sensor**, in the oil chamber, are available options to protect the pump in the most demanding application.

Solid Handling up to 120mm

Pumps are design to work in the Most harsh situation. Solid handling of Dragflow pumps extends from 20mm up to 120mm (5 inch)

Structural Characteristics

Adjustable Hi-Chrome suction side Wear Plate maintains maximum performance for extended periods by a simple adjustment of the gap between the wear plate and the impeller.

Service Bolt: these bolts allow easy pump disassembly, a built in service tool.

Replaceable wear parts: casings, impellers, wear plates all can be replaced independently.

Lube Oil Inspection Ports: a wide-angle port outside the pump ensures easy inspection of shaft seal oil levels as well as providing easy access for oil replacement.

Easy cable replacement: Dragflow system has no epoxy on the power cable. This means fast cable change together with a protected motor.

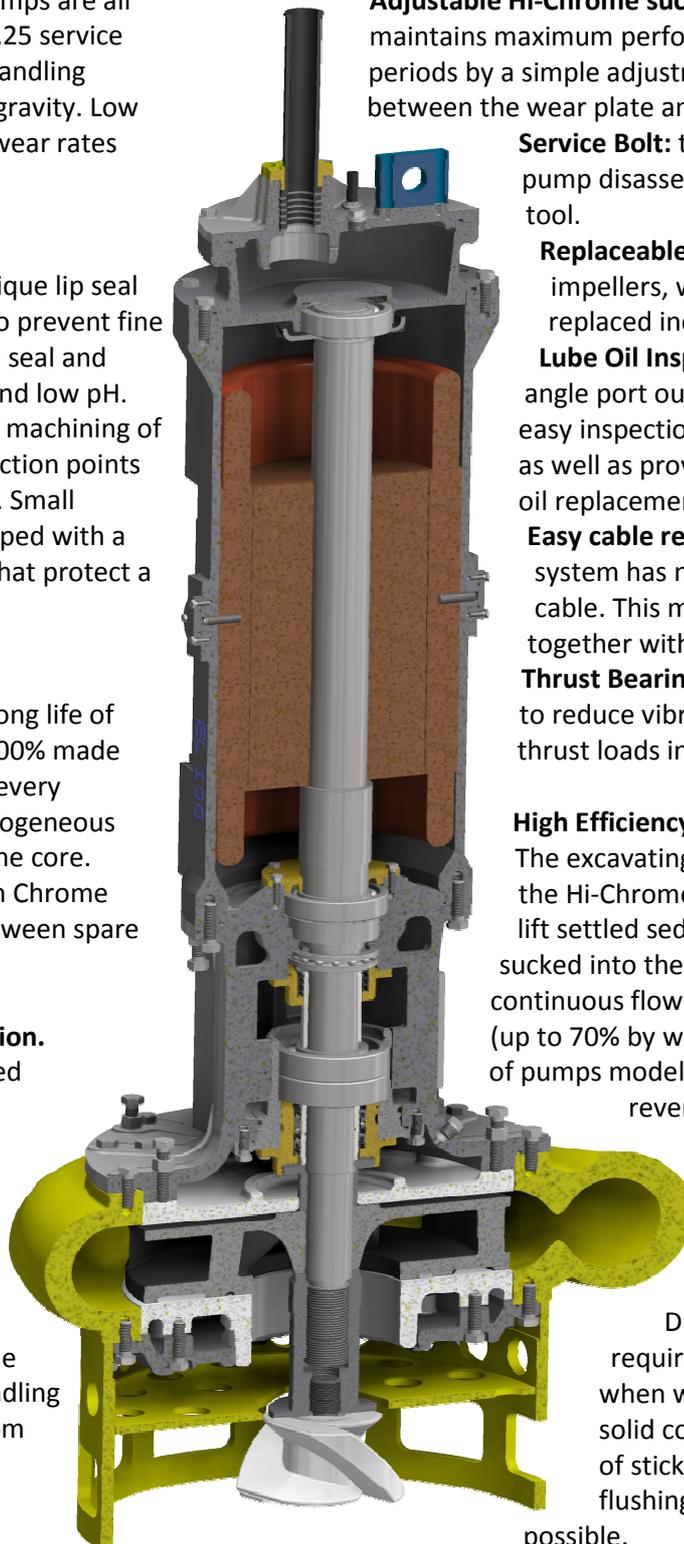
Thrust Bearings: dual thrust bearings to reduce vibration and counter thrust loads in both directions.

High Efficiency Agitator

The excavating action is created by the Hi-Chrome agitator blades that lift settled sediments which get sucked into the pump, creating a continuous flow of concentrated slurry (up to 70% by weight). On a wide range of pumps models Dragflow agitator is reversible, this significantly increases the life of this component.

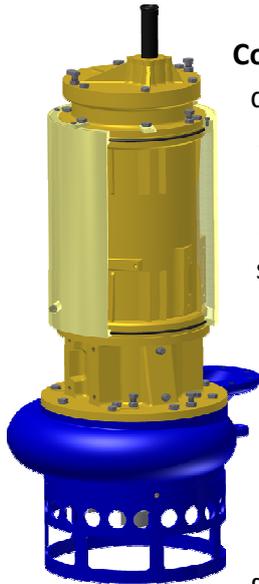
External flushing for special materials

Dragflow pumps do not require any special attention when working with a very high solid content but in presence of sticky material external flushing with clean water is possible.



Dragflow options: optimize your pump for your application

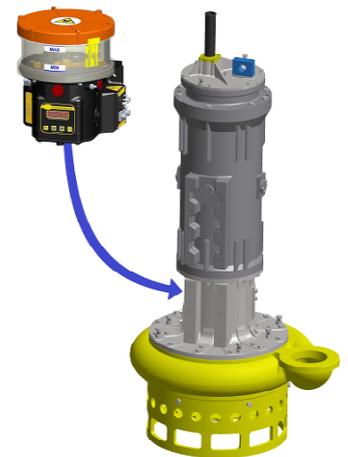
Mechanical seal. Dragflow standard sealing system is its superb lip seals combination. A double silicon carbide mechanical seal in combination with a front deflector is available as an option for very abrasive applications.



Cooling Jacket. Dragflow pumps from 3,7 to 18 kW come with top discharge that creates a natural cooling jacket for the pump. This allows the pump to work even if not completely submerged. An external cooling jacket can be applied also to pumps bigger than 26kW and up to 110 kW thus allowing all the range to work also in semi-submerged conditions.

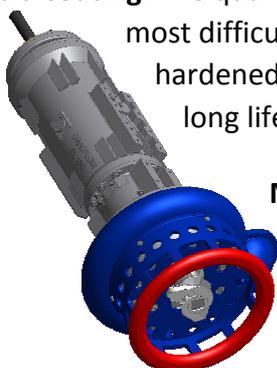
Stainless steel components. In cases of high or low pH pump filter and lifting plates can be installed in stainless steel (316SS). This choice together with Teflon layers in the seal zone makes Dragflow pumps suitable for environments with pH from 2 to 10.

Automatic greasing system. Pumps installed in semi-fixed position, or in a “not easy-to-reach” installation, can be equipped with an automatic greasing system that provides fresh grease to the seals on a regular basis. This operation not only increases the overall sealing system life but also allows the operators to dramatically reduce maintenance and checks on the pump.



High Pressure Water Jet Ring. Dragflow pumps can work with incredibly dry material. When material is very compact or the solid concentration too high to allow continuous pumping an high pressure water jet-ring can support the pump during the job.

Extra coating. The quality and type of casting used in Dragflow pumps are designed to face the most difficult and abrasive applications. For some specific application an extra hardened coating layer can be applied inside the pump casing to ensure extreme long life to this wear part.



Membrane protection. Often the bottom of mine ponds is covered with a water-proof plastic layer. Action of the pump during dredging operation could damage this layer. With Dragflow you have the option to add a protective ring to the pump strainer to prevent this from happening.

Cutter-knife. When the slurry is covered by a layer of vegetation, grass or seaweed Dragflow cutter-knife, together with a modified filter, will help the pump to face the application without clogging.

Gold Mines

Orcopampa Gold Mine – Buenaventura – Peru



Pond Cleaning – Dragflow EI35 With High Pressure Water Jet Ring

Heavy applications

Mining companies and contractors have come to trust the incredible heavy-duty design of Dragflow submersible mining pumps. Dragflow pumps can be designed to work comfortably with slurry specific gravity up to 1,7 and in a very wide range of pH. Dragflow pumps proved to succeed where many pumps have failed.

Antamina – Ball mill
Solid concentration up to 80%

Dragflow EL60S – 100HP

- Cooling jacket
- Temperature sensor
- Moisture sensor



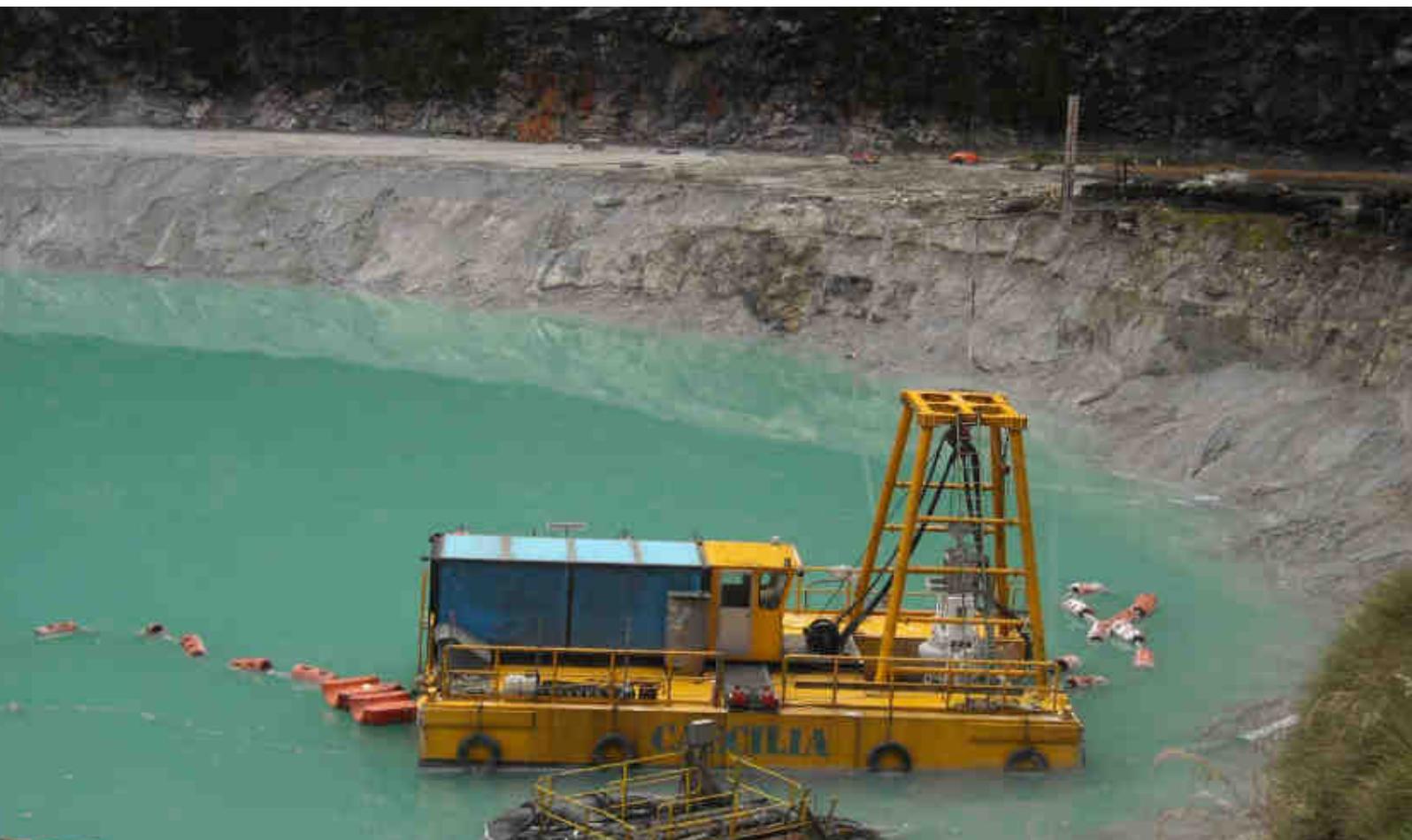
Dragflow Hydraulic equipment and Tailing Pond solutions

How We Work

Over the years Dragflow has been developing a deep know-how in pumping and dredging applications, based on innovation and ability to create customized solutions according to customers' needs.

Dragflow delivers original systems that provide commercial and technical advantages; we work in close contact with customers on projects ranging from complex pumping systems in mines to off-shore dredging projects.

Our philosophy is to give not only a quality product but a full solution to the problem; we support our customers in concept development, 2D/3D modelling, product delivery and start-up operations.



Hydraulic Pump Systems

Hydraulic Motor

Reliability and flexibility of hydraulic motors are widely recognized. Dragflow Pumps equipped with hydraulic motors can reach powers up to 400HP and work with native variable RPM. No problems of losing efficiency at different speeds combined with no problems of electroshock from electric devices makes hydraulic pumps the right choice for complex pumping and dredging applications.



Metallurgy and Seals

High quality material ensure long life for all pump components. Casting is 100% made in Italy with quality check for every casting in order to ensure homogeneous hardness from the surface to the core. All wear parts are made in High Chrome alloy to allow extended life between spare part changes. Unique lip seal system with a front deflector to prevent the fine materials penetrating the sealing zone and Teflon layers to resist to high and low pH.

High Efficiency Agitator

The excavating action is created by the Hi-Chrome agitator blades. It actually lifts settled sediments which get sucked into the pump, creating a continuous flow of concentrated slurry (up to 70% by weight) out the pump discharge.

Solid Handling up to 120mm

Hydraulic pumps can work in the most difficult situations. Pumps are designed for solid handling up to 120mm (5 inch).

Dragflow double hydraulic excavators EXHY 20 and EXHY35

Dragflow hydraulic excavators EXHY can be attached directly to the pump creating a self contained **excavating system for hard compacted sand** where a mechanical excavator would otherwise be required.

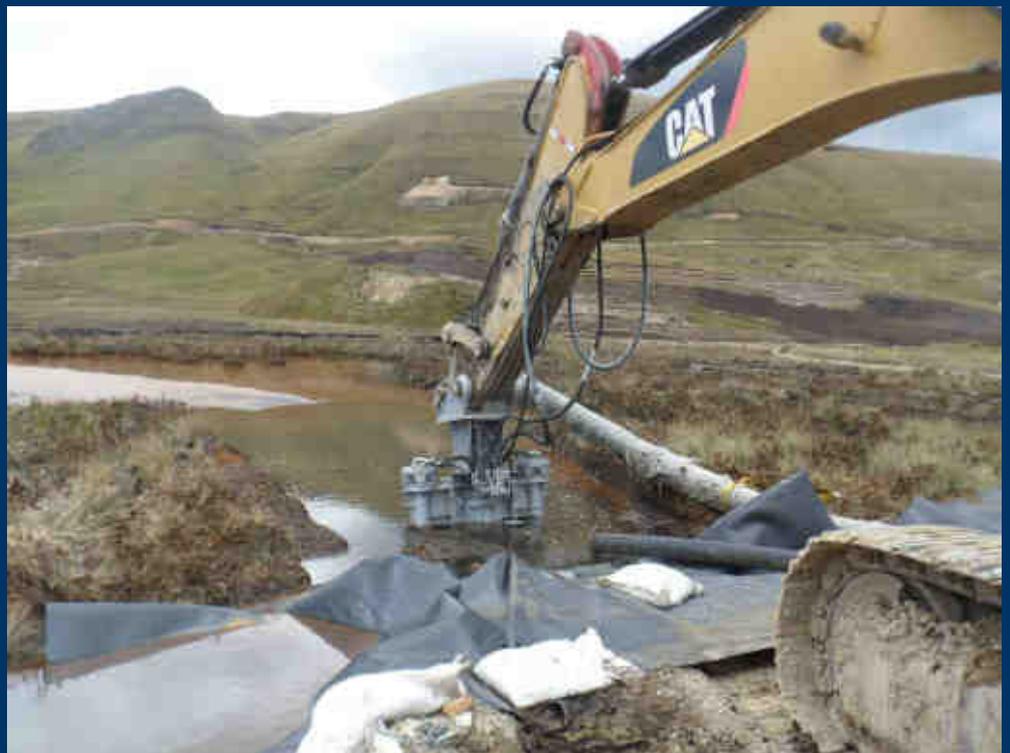
Pumps that make the difference!



Newmont Gold Mine - Peru

**EXCAVATOR MOUNTED
DRAGFLOW HYDRAULIC
DREDGE UNIT:**

- Pump HY85B
- Cutters EXHY20S
- Cutter-knife for grass
- High Pressure Jets
- Separate circuit to work with cutters only
- System mounted and driven with CAT Excavator native Hydraulic plant



Mineral sands - Canada

Dragflow is a recognized supplier in the Oil Sand industry with installations in process plants and systems for tailings management. As mining operations expand, it is necessary to build more and larger settling ponds. Finding a way to remove the mature fine tailings layer from the ponds and quickly transform it into a soil-like deposit suitable for reclaiming is critical to improving overall reclamation performance.



\Dragflow Pump HY400 and Power Pack – Dragflow Dredge DRH400

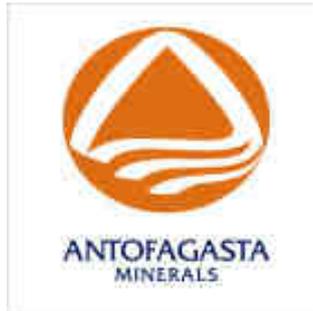
**Newmont Gold Mine – Indonesia
Dragflow Dredge DRH400**



All Dragflow equipment is designed, built and tested in our workshop located in Verona, Italy. A distribution and service network together with assistance from our experienced technicians assures proper installation and maintenance to every application.

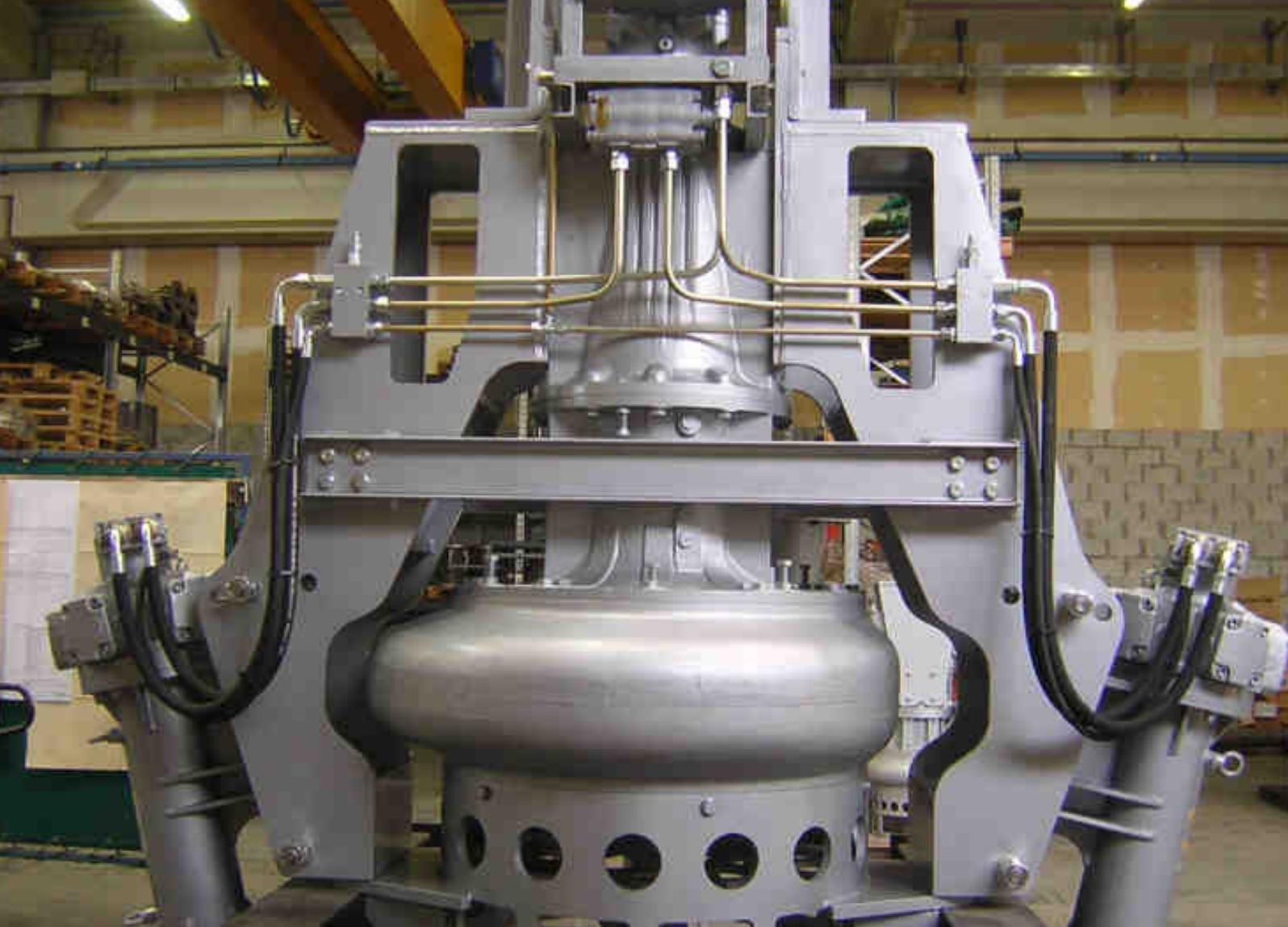


Dragflow pumps are working with



Proven Worldwide – Global Sales And Service Presence

Dragflow pumps are being used in the world's harshest environments. Our global sales and service network ensures that we provide the highest level of sales and after-sales service.



People

The Dragflow team constantly works not only to find new technological solutions that improve the performance of its products, but also to design specific solutions for contractors and end users, optimizing sustainable operations with energy savings and reducing the environmental impact and overall costs.

Technology

As a recognized leader in the production and marketing of submersible dredge pumps, Dragflow has gained over the years remarkable international experience and first rate reputation in the production of dredges, for marine and energy sectors as well as in mining for minerals and other materials.

Thanks to the experience in leading technology projects, Dragflow continuously enhances its ability to deliver high-quality products.



Electric Pumps (EL Series)

- Power: from 5 to 150 Horse Power
- Capacity: from 30 to 1000 m³/h
- Head: from 5 to 40 m
- Discharge distance: up to 800 m

Dredging Excavators (EXHY Series)

- Power: from 11 to 30 Horse Power
- Speed: from 30 to 50 rpm
- Oil: 35 / 46 / 58 l/min
- Pressure: 250 bar

Dragflow dredges:

- Dredges with hoist (DRH Series)
- Dredges with telescopic boom (DRT Series)
- Ladder dredges with submersible pump (DRS Series)

Hydraulic Pumps (HY Series)

- Power: from 24 to 400 Horse Power
- Capacity: from 60 to 1200 m³/h
- Head: from 5 to 50 m
- Discharge distance: up to 1300 m

Power Packs (DP and EP series)

- Engine: Diesel or Electric
- Variable oil flow oil pumps

Options

- Sound proof canopy
- Remote and Radio control
- Container Style
- Operator Cabin
- Winches and Hoists

About Dragflow

Dragflow S.r.l. was born at the end of the 1980's as a manufacturer of heavy duty submersible agitator pumps specifically designed for handling slurries with a high content of abrasive solids.

Thanks to the passion and brilliance of its team of technicians and engineers, Dragflow S.r.l. has proven to be not just a simple alternative for handling solids with conventional products and systems, but provides solutions for those clients operating in specialized sectors who must face extreme conditions and solve very difficult applications. Many successful cases and customer satisfaction have encouraged us to continue with the research and further development of our products.

Quality and Service

Dragflow products are made with an exceptional structural quality to achieve low maintenance and service costs and long life of components and wear parts.

Dragflow invested in ISO9001 Quality Certification and in its information systems, because it believes in the importance of business process management, not only for improving efficiency but also to provide excellent service to Customers.

With its distribution network around the world, Dragflow is able to give consultancy, service and assistance worldwide

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